CLAIMS

WE CLAIM:

1. An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding amino acids from about 1 to about 583 of SEQ ID NO:2;

(b) a polynucleotide encoding amino acids from about 2 to about 583 of SEQ ID NO:2;

(c) a polynucleotide encoding amino acids from about 1 to about 81 of SEQ ID NO:4;

(d) a polynucleotide encoding amino acids from about 2 to about 81 of SEQ ID NO:4;

(e) the polynucleotide complement of the polynucleotide of (a)-(d); and

(f) a polynucleotide at least 90% identical to the polynucleotide of (a)-(e).

2. An isolated nucleic acid molecule consisting of a nucleic acid comprising 50-1752 contiguous nucleotides from the coding region of SEQ ID NO:1.

3. The isolated nucleic acid molecule of claim 2, which comprises 100-1500 contiguous nucleotides.

4. The isolated nucleic acid molecule of claim 3, which comprises 500-1000 contiguous nucleotides.

5. An isolated nucleic acid molecule comprising a polynucleotide encoding a polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

(a) amino acids from about 1 to about 583 of SEQ ID NO:2;

(b) amino acids from about 2 to about 583 of SEQ ID NO:2;

(c) amino acids from about 1 to about 81 of SEQ ID NO:4; and

(d) amino acids from about 2 to about 81 of SEQ ID NO:4.

6. The isolated nucleic acid molecule of claim 1, which is DNA.

7. A method of making a recombinant vector comprising inserting a nucleic acid molecule of claim 1 into a vector in operable linkage to a promoter.

8. A recombinant vector produced by the method of claim 7.

9. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 8 into a host cell.

10. A recombinant host cell produced by the method of claim 9.

11. A recombinant method of producing a polypeptide, comprising culturing the recombinant host cell of claim 10 under conditions such that said polypeptide is expressed and recovering said polypeptide.

12. An isolated polypeptide comprising amino acids at least 95% identical to amino acids selected from the group consisting of:

(a) amino acids from about 1 to about 583 of SEQ ID NO:2;

(b) amino acids from about 2 to about 583 of SEQ ID NO:2;

(c) amino acids from about 1 to about 81 of SEQ ID NO:4; and

(d) amino acids from about 2 to about 81 of SEQ ID NO:4.

13. An isolated polypeptide wherein, expect for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

(a) amino acids from about 1 to about 583 of SEQ ID NO:2;

(b) amino acids from about 2 to about 583 of SEQ ID NO:2;

(c) amino acids from about 1 to about 81 of SEQ ID NO:4; and

(d) amino acids from about 2 to about 81 of SEQ ID NO:4.

14. An isolated polypeptide comprising amino acids selected from the group consisting of:

(a) amino acids from about 1 to about 583 of SEQ ID NO:2;

(b) amino acids from about 2 to about 583 of SEQ ID NO:2;

(c) amino acids from about 1 to about 81 of SEQ ID NO:4; and

(d) amino acids from about 2 to about 81 of SEQ ID NO:4.

15. An epitope-bearing portion of a polypeptide comprising consisting of SEQ ID NO:2.

16. The epitope-bearing portion of claim 15, which comprises about 5 to about 50 contiguous amino acids.

17. The epitope-bearing portion of claim 16, which comprises about 10 to about 20 contiguous amino acids.

18. An isolated antibody that binds to the polypeptide of claim 12.

19. An isolated antibody that binds to the polypeptide of claim 13.

20. An isolated antibody that binds to the polypeptide of claim 14.

21. A complex comprising a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2 and SEQ ID NO:4.

22. A complex comprising a fragment of the amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4 and a Dishevelled protein wherein said fragment is capable of forming a complex with said Dishevelled protein.

23. A pharmaceutical composition comprising a therapeutically effective amount of a polypeptide selected from the group consisting of SEQ ID NO:2 and SEQ ID NO:4, and a pharmaceutically effective carrier.

24. A method of detecting Notch ligand expression in human cancer cells, said method comprising:

obtaining mRNA from said cells; and

contacting said mRNA with a polynucleotide of SEQ ID NO:1 under stringent hybridization conditions, wherein formation of a duplex comprising a polynucleotide of SEQ ID NO:1 indicates expression of Notch ligand wherein said Notch ligand is encoded by a gene comprising SEQ ID NO:1 or its complement.

25. A method of detecting Notch ligand expression in human melanoma cells, said method comprising:

obtaining mRNA from said cells; and

contacting said mRNA with a polynucleotide of SEQ ID NO:1 under stringent hybridization conditions, wherein formation of a duplex comprising a polynucleotide of SEQ ID NO:1 indicates expression of Notch ligand wherein said Notch ligand is encoded by a gene comprising SEQ ID NO:1 or its complement.

26. A method of enhancing angiogenesis in a mammal in need thereof, said method comprising administering the composition of claim 23 and at least one growth factor selected from the group consisting of bFGF and VEGF.

27. The method of claim 26 wherein said mammal exhibits tissue ischemia.